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amended.*
and exposing the substrate by use of an exposure apparatus as recited in Claim 25;

developing the exposed substrate.

REMARKS

The claims now pending in this application are Claims 1, 3-16, and 20-26, with Claims 1 and 20 being the independent claims. Claims 2, 17, 18, and 19 have been cancelled. Claims 1, 3-9, and 20-22 have been amended.

In the Official Action dated August 27, 2002, Claims 1-26 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Specifically, the Examiner finds indefinite the recitation "wherein the coil is supported by a recessed portion" in Claims 1 and 6-8. Further, the Examiner finds indefinite the recitation "wherein the coil is supported by a recessed portion of the coil holding member" in Claim 20. In response, Applicants have amended independent Claims 1 and 20 to further clarify this feature of the present invention. Favorable consideration is respectfully requested.

Claims 1-3, 5-9, 11-15, and 17-26 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,084,319 (Kamata, et al.). Reconsideration and withdrawal of this rejection is respectfully requested in view of the above amendments and the following remarks.

The rejection of the claims over the cited art respectfully is traversed. Nevertheless, without conceding the propriety of the rejection, Claims 1, 3-9, and 20-22 have been amended to even more clearly recite various novel features of the present invention.

Support for the proposed amendments may be found in the original application. No new matter has been added.

Independent Claim 1 is directed to a linear motor, comprising a magnet, a coil, and a jacket. The jacket has a comb-shaped member that extends along a driving direction, wherein a cooling medium flows through an inside space enclosed by the jacket. The comb-shaped member includes base portions provided on inside faces of the jacket and pillar-like portions for connecting the base portions. The coil is supported by the base portions in a floating manner and is fixed, with respect to the driving direction, by being sandwiched by the pillar-like portions.

Independent Claim 20 is directed to a linear motor comprising a magnet, a plurality of coils, and a coil holding member. The coil holding member has recess portions and pillar portions, in a comb-shape, disposed along a first direction. Each coil is supported, with respect to a second direction perpendicular to the first direction, by the recessed portions and it is fixed, with respect to the first direction, by being sandwiched by the pillar portions, the pillar portions being disposed along an outside periphery of the coils.

The Kamata, et al. patent relates to a linear motor that includes a coil and a jacket which covers the coil and allows a cooling medium to be supplied to a space between the jacket and the coil in the jacket. However, the Kamata, et al. patent fails to disclose or suggest at least the above-referenced features of the present invention.

In particular, the Kamata, et al. patent fails to disclose or suggest a coil that is supported by base portions in a floating manner and is fixed, with respect to the driving direction, by being sandwiched by the pillar-like portions, as claimed in independent Claim 1. Applicants

submit that the Kamata, et al. patent is silent as to a coil that is fixed, with respect to the driving direction, by being sandwiched by pillar-like portions connecting the base portions.

Moreover, the Kamata, et al. patent fails to disclose or suggest coils that are supported, with respect to a second direction perpendicular to the first direction, by the recessed portions and are fixed, with respect to the first direction, by being sandwiched by the pillar portions, the pillar portions being disposed along an outside periphery of the coils, as claimed in independent Claim 20. Applicants respectfully submit that Kamata, et al. is completely silent as to fixing the coils with respect to a first direction, by sandwiching it by pillar portions, and supporting a coil in a direction perpendicular to the first direction by recessed portions of the coil holding member.

Additionally, Kamata, et al. is silent as to using the jacket as a guide. Figure 2 of Kamata, et al. merely demonstrates the relationship between a stator 42 and a movable element of the linear motor. The stator 42 shown in Figure 2 of the this patent is not used as a guide. Indeed, in Kamata, et al., the guide function is provided separately as shown in Figure 1 by reference numeral 111.

Accordingly, Applicants submit that independent Claims 1 and 20 are allowable over the cited art and respectfully request withdrawal of the rejection under 35 U.S.C. § 102(e).

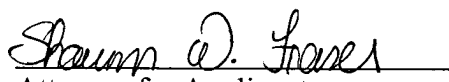
The dependent claims depend from one or another of the independent claims and are believed allowable for the same reasons. Moreover, each of these dependent claims recite additional features in combination with the features of their respective independent claim

and is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

Applicants believe the present Amendment is responsive to each of the points raised by the Examiner in the Official Action, and submit that the present application is in allowable form. Favorable consideration of the claims and passage to issue of the present application at the Examiner's earliest convenience earnestly are solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,


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MARKED-UP VERSION SHOWING CHANGES TO THE CLAIMS

1. (Three Times Amended) A linear motor, comprising:

a magnet;

a coil; and

a jacket having a [an inside member that is] comb-shaped member that extends
[and having teeth, extending] along a driving direction, wherein a cooling medium flows through
an inside space enclosed by said jacket, wherein said comb-shaped member includes base
portions provided on inside faces of said jacket and pillar-like portions for connecting said base
portions, and wherein the coil is supported by said base portions in a floating manner and is
fixed, [a recessed portion of the comb-shaped member and is held fixed,] with respect to the
driving direction, by being sandwiched by the pillar-like portions [protruded portions of the
comb-shaped member, the protruded portions of the comb-shaped member being disposed at
least along an outside periphery of the coil].

Claim 2 is cancelled herein.

3. (Amended) A linear motor according to Claim 1, wherein said linear
motor includes a plurality of coils arrayed along the driving direction partially overlapping each
other, wherein at least one of the coils [each coil] has a bent end portion to avoid mutual

interference of the partially overlapped portions of the coils, and wherein the coils are disposed with their central portions placed substantially at the same level.

4. (Amended) A linear motor according to Claim 3, wherein said jacket has a central portion [of small thickness] and a recessed portion on the outside [of said jacket] the central portion, wherein the bent end portions of the coils are disposed at the recessed portion, and wherein [the central portion is reinforced by] the recessed portion reinforces the central portion.

5. (Amended) A linear motor according to Claim 1, wherein said jacket serves as a guide for an element to be driven by said linear motor.

6. (Three Times Amended) A stage system, comprising:
a linear motor as recited in Claim 1; and
a stage to be driven by said linear motor
[a movable stage;
a linear motor having a magnet and a coil, for driving said stage; and
a jacket having an inside member that is comb-shaped having teeth, extending along a driving direction, wherein a cooling medium flows through an inside space enclosed by said jacket, and wherein the coil is supported by a recessed portion of the comb-shaped member and is held fixed, with respect to the driving direction, by being sandwiched by protruded

portions of the comb-shaped member, the protruded portions of the comb-shaped member being disposed at least along an outside periphery of the coil].

7. (Three Times Amended) An exposure apparatus, comprising:

a stage system as recited in Claim 6; and

an optical system for illuminating a substrate to be conveyed by said stage

system

[a movable stage for holding a substrate thereon;

a linear motor having a magnet and a coil, for driving said stage; and

a jacket having an inside member that is comb-shaped having teeth, extending along a driving direction, wherein a cooling medium flows through an inside space enclosed by said jacket, and wherein the coil is supported by a recessed portion of the comb-shaped member and is held fixed, with respect to the driving direction, by being sandwiched by protruded portions of the comb-shaped member, the protruded portions of the comb-shaped member being disposed at least along an outside periphery of the coil].

8. (Three Times Amended) A device manufacturing method, comprising the steps of:

applying a photosensitive material [onto] to a substrate;

exposing the substrate by use of an exposure apparatus as recited in Claim 7;

and [including a movable stage for holding a substrate thereon, a linear motor having a magnet

and a coil, for driving said stage, and a jacket having an inside member that is comb-shaped having teeth, extending along a driving direction, wherein the coil is attached to said jacket while being sandwiched by the comb-shaped member with respect to the driving direction and wherein a cooling medium flows through an inside space enclosed by said jacket, and wherein the coil is supported by a recessed portion of the comb-shaped member and is held fixed, with respect to the driving direction, by being sandwiched by protruded portions of the comb-shaped member, the protruded portions of the comb-shaped member being disposed at least along an outside periphery of the coil; and]

developing the exposed substrate.

9. (Three Times Amended) A linear motor according to Claim 1, wherein said jacket has a reinforcement portion extending parallel to [a] the driving direction[, wherein said coil is enclosed by said jacket].

Claims 17-19 are cancelled herein.

20. (Twice Amended) A linear motor, comprising:
a magnet;
a plurality of coils [coil]; and
a coil holding member having recessed portions and [protruded] pillar portions,
in a comb-shape, disposed along a [relative movement] first direction [between the magnet and

the coil], wherein each [the] coil is supported, with respect to a second direction perpendicular to the first direction, by the recessed portions and it is fixed, with respect to the first direction, by being sandwiched by the pillar portions, the pillar portions being disposed along an outside periphery of the coils. [supported by a recessed portion of the coil holding member and, with respect to the movement direction, it is held fixed by being sandwiched by plural protruded portions of the coil supporting member, the protruded portions being disposed at least along an outside periphery of the coil.]

21. (Amended) A linear motor according to Claim 20, wherein [said] each coil has an inside void in which a portion of another coil is placed.

22. (Amended) A linear motor according to Claim 20, wherein [said] each coil has an inside void in which plural pillar portions [protrusions] of said coil holding member are disposed along the [relative movement] first direction.